

## Definitions

**A, C and D Wavelength Pairs:** The Dobson instrument measures the difference between the intensity of selected wavelengths in the range of 3000 to 3400 Ångstroms. Certain pairs were chosen to measure ozone. These are called the A, C and D pairs. There was a B, but it is rarely used due to interference by other atmospheric absorbers.

**Intercomparison:** Series of simultaneous measurements made by several Dobson instruments, one of which is a standard. Usually, the time period is chosen so the measurements are made over a wide range of  $\mu$ .

**Standard Lamp Test:** A measurement of the N-value of a specific Quartz-Halogen (normally) bulb for the standard wavelength pairs. These bulbs are usually specific to an instrument. The result is used as a measure of the drift of the instrument's specific ETC.

**Q-setting Table:** The table used to set the instrument's wavelength controls to a wavelength pair. The setting is dependent on instrument temperature. The controls are rotatable quartz plates, hence the name Q-setting.

**Discharge lamp test series:** A series of measurements on various spectral lines from discharge lamps to calibrate the instrument's wavelength controls.

**Mercury Test:** A test to determine the correctness of the Q-setting table with respect to a single spectral line of mercury that is normally performed routinely to verify the optical alignment of the primary (right hand side) optics to the slit S2.

**Symmetry Test:** A series of tests on two spectral lines of mercury to verify the spectral dispersion, and the right to left side alignment of the optics.

**Wedge Calibration:** The procedure used to determine the density of the optical wedge used in the instrument.

**$\mu$  ( $\mu$ ):** Normalized optical path length through the atmosphere of radiation at the wavelengths used by the Dobson instrument. Calculated from the solar zenith angle,  $\mu$  ranges from 1.0 (sun overhead) to greater than 12.0 (sun on the horizon).

**G-table:** Table relating the position of the optical wedge, defined by degrees of arc on the R-dial, to relative attenuation. G-tables are defined for each A, C, and D wavelength pair by the Wedge Calibration.

**N-table:** A G-table converted by the addition of the instrument's extra-terrestrial constant (ETC) to all the entries. The ETC can be determined by lamps with a known N-value, direct intercomparison with a standard Dobson instrument, or by a Langley plot method [\[Reference?\]](#).

**ETC (extra-terrestrial constant):** The value the instrument would read outside the earth's atmosphere.